

# **WHAT IS CLAIMED IS:**

1. A method of determining character codes for a binary encoded numerical original value using an information processing apparatus comprising:

- a. dividing said original value by a divisor that will produce a two or more digit integer result;
- b. using said two or more digit result to determine two or more display codes;
- c. determining a secondary original value;
- d. repeating steps a through c until said secondary original value represents less than a predetermined number of digits; and
- e. using a final secondary original value to determine a final two or more display codes.

2. The method according to claim 1 wherein said integer result is an integer remainder and said determining comprises dividing said original number by a base raised to a power indicating the number of digits decoded.

3. The method according to claim 1 wherein said integer result is an integer quotient and said determining comprises:

- subtracting said integer result multiplied by said divisor from said original value to get a secondary original value.

4. The method according to claim 1 wherein said divisor is an integer exponential power of 10 greater than 10.

5. The method according to claim 1 wherein said divisor is an integer exponential power of 10 greater than 1000.

6. The method according to claim 1 wherein said using comprises:  
performing a table lookup using said two or more digit result as an index to a table.

7. A method of determining character codes for a binary encoded numerical original value using an information processing apparatus comprising:

- a. dividing said original value by a divisor to produce a two or more digit remainder integer result;
- b. using said two or more digit result to determine two or more display codes;
- c. subtracting said integer result multiplied by said divisor from said original value to get a secondary original value;

- d. repeating steps a through c until said secondary original value is less than a predetermined number of digits; and
- e. using a final secondary original value to determine a final two or more display codes.

8. The method according to claim 1 wherein said divisor is an integer exponential power of 10 greater than 10.

9. The method according to claim 1 wherein said divisor is an integer exponential power of 10 greater than 1000.

10. The method according to claim 1 wherein said using comprises:  
performing a table lookup using said two or more digit result as an index to a table.

11. An apparatus in a computing system converting a binary encoded number to a set of display codes comprising:

a table having a plurality of entries, each entry providing two or more display codes for two or more digits; and

a processor able to divide a binary encoded number by a divisor and use results therefrom to look-up two or more display codes in said static table.

12. The apparatus according to claim 11 further wherein said result is used as an index to said table.

13. The apparatus according to claim 11 further wherein said result is a remainder result of said division.

14. The apparatus according to claim 11 further wherein said result is an integer quotient result of said division.

15. The apparatus according to claim 11 wherein each indexed entry in said table has a number N of digit display codes and wherein said table has  $10^N$  indexed entries and wherein N is an integer greater than one.

16. The apparatus according to claim 11 wherein said apparatus is implemented as run-time computer logic instructions executing in an application and/or operating system process space of an information processing system.

17. The apparatus according to claim 11 wherein said apparatus is implemented comprising one or more custom logic hardware components of an information processing system.

18. A method allowing an information handling system to more quickly execute programs requiring conversion of binary encoded numbers to character codes comprising:

5 constructing a lookup table in a memory of said information handling system wherein said lookup table is indexed by a value and wherein entries in said lookup table represent two or more display codes corresponding to said value; and  
establishing a logic routine that accepts a binary encoded numerical value and uses said lookup table to determine display codes for said binary encoded numerical value.

10 19. The method according to claim 18 wherein said constructing comprises:  
constructing a static lookup table in an operating system memory space of said information handling system.

20. The method according to claim 18 further comprising:  
selecting an integer greater than one indicating the number of digit display codes in each entry in  
15 a look-up table.

21. The method according to claim 18 wherein said logic routine further comprises:  
a. dividing an original value by a divisor that will produce a two or more digit integer result;  
b. using said two or more digit result to determine two or more display codes;  
c. determining a secondary original value;  
20 d. repeating steps a through c until said secondary original value represents less than a predetermined number of digits; and  
e. using a final secondary original value to determine a final two or more display codes.

22. A method of speeding up operation of a computer system comprising:  
establishing a logic routine for displaying binary encoded numbers wherein said logic routine  
25 determines two or more display code representations of a binary encoded number at each iteration through a conversion routine.

23. The method according to claim 22 wherein an iteration requires just one division of a number derived from an original binary encoded number.

24. The method according to claim 22 further comprising:

constructing a lookup table during run-time execution of an application in an application memory space of said computer wherein said lookup table is indexed by a value and wherein entries in said lookup table represent two or more display codes corresponding to an indexed value; establishing a function logic routine for converting binary encoded numerical values and using said lookup table to determine display codes for said values.

25. The method according to claim 22 further comprising:

constructing a static lookup table in an operating system memory space of said computer wherein said lookup table is indexed by a value and wherein entries in said lookup table represent two or more display codes corresponding to said indexed value; establishing a operating system call logic routine that accepts a binary encoded numerical value and uses said static lookup table to determine display codes for said value.

26. A device for determining character codes for a binary encoded numerical original value comprising:

means for dividing said original value by a divisor that will produce a two or more digit integer result;  
means for determining two or more display codes using said two or more digit result;  
means for determining a secondary original value;  
means for determining when said secondary original value represents less than a predetermined number of digits; and  
means for using a final secondary original value to determine a final two or more display codes.

27. A fixed media containing logical instructions that when loaded into an appropriately configured digital apparatus causes the apparatus to operate in accordance with the method of claim

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